

Supplemental Material

Effects of actinomycete secondary metabolites on sediment microbial communities

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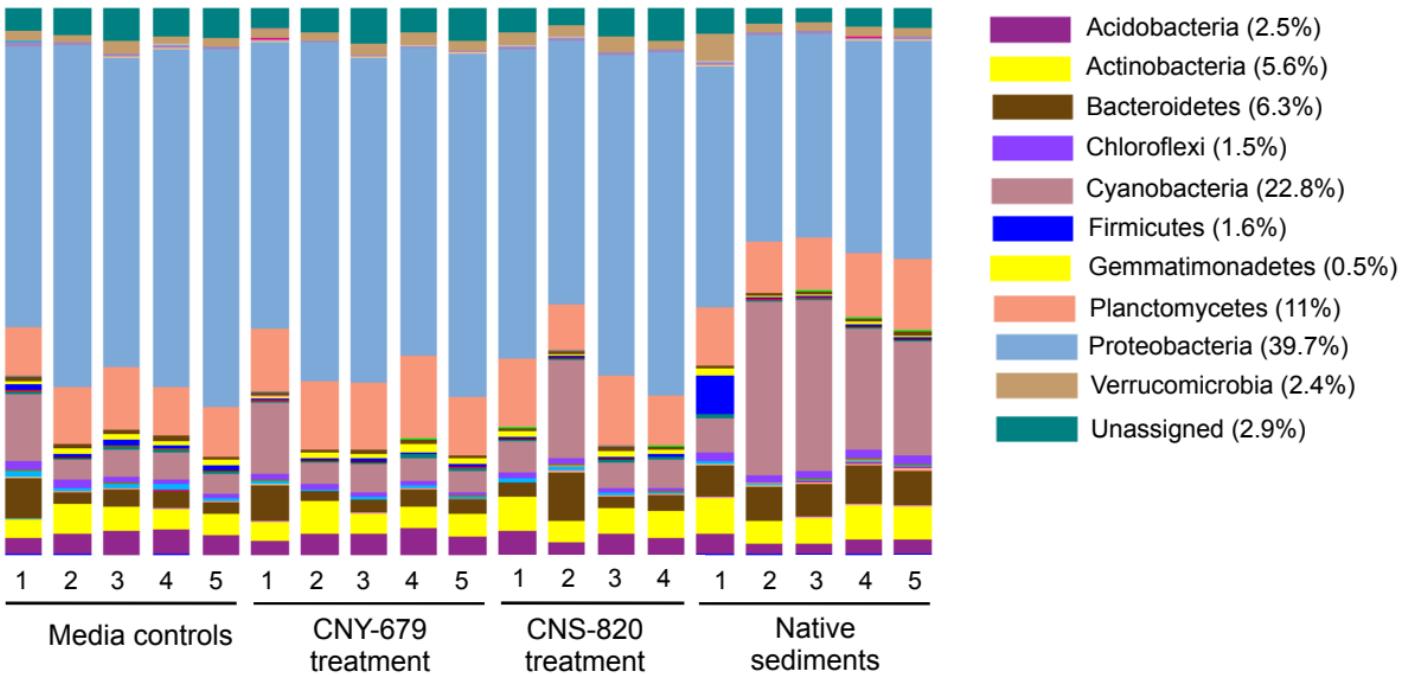


Figure S1: Phylum level taxonomic composition of the time zero (T0) mesocosm samples and the native sediments ('M': media control mesocosms, '679': CNY-679 treatment mesocosms, '820': CNS-820 treatment mesocosms, S1-S5: native sediments).

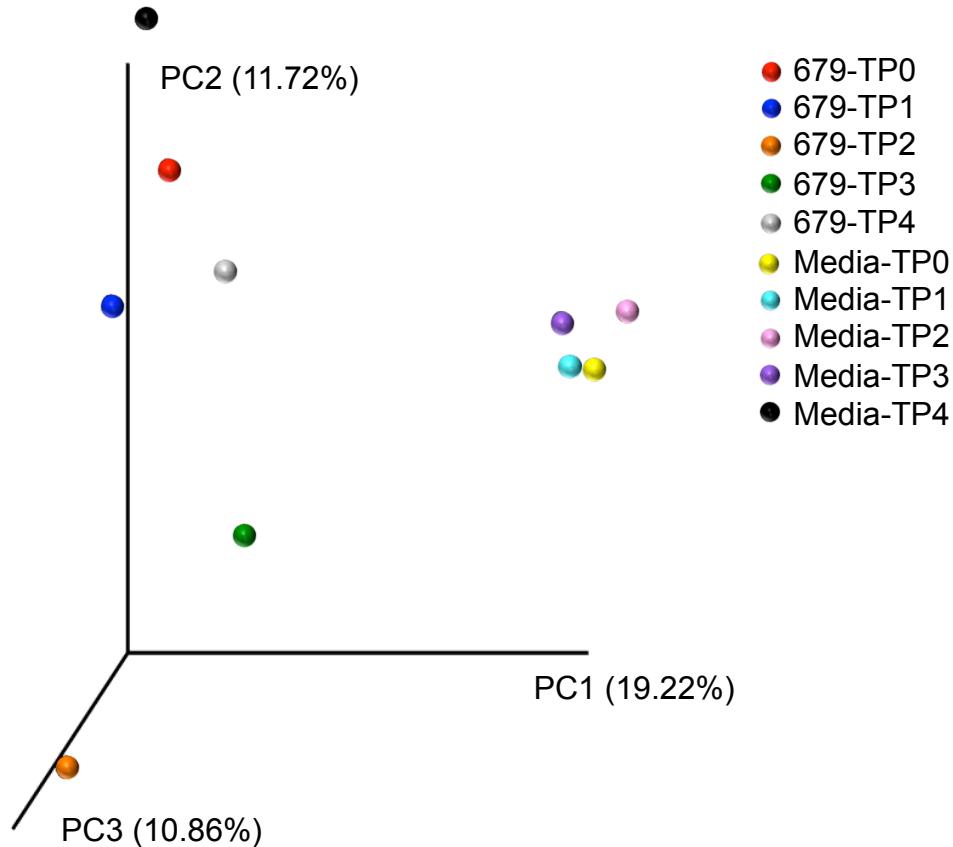
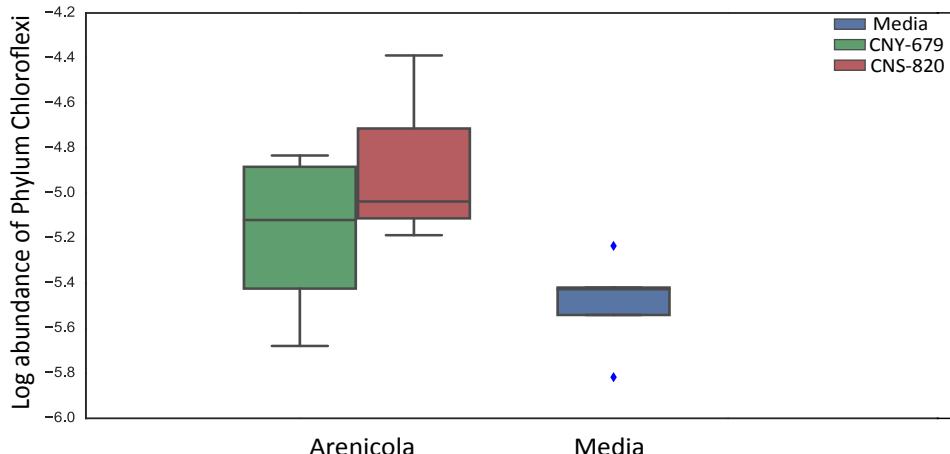
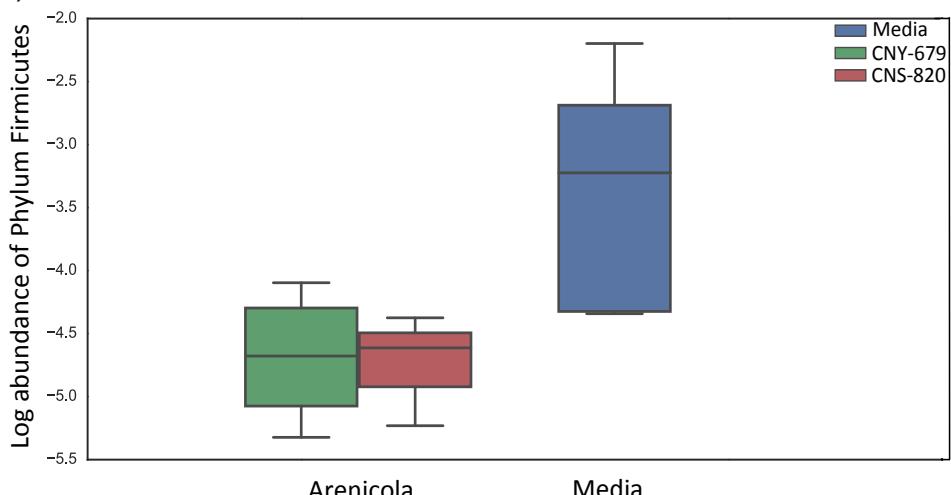


Figure S2: Three-dimensional Principal Components Analysis of community composition of five mesocosm time points from CNY-679 treatments and media controls. Time points were taken at T0 (0 h), T1 (6 h), T2 (24 h), T3 (72 h), and T4 (3 days).

(a)



(b)



(c)

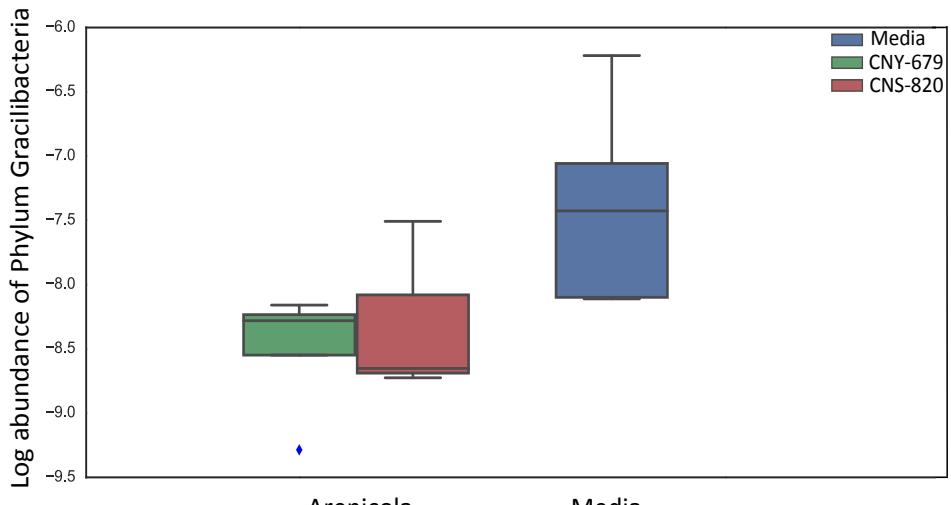


Figure S3: Box plots of relative abundances of three phyla that were significantly enriched or depleted in the *S. arenicola* treatment mesocosms. (a) Phylum Chloroflexi, (b) Phylum Firmicutes, (c) Phylum Gracilibacteria.

Table S1: Samples analyzed for community diversity and their corresponding time point (for mesocosm samples), replicate number, and number of reads generated. Sample names indicate the extract source for mesocosm samples, either CNY-679 ('679'), CNS-820 ('820'), or media ('M'). S1 through S5 are native sediments.

Sample	Time point	Replicate	# sequences
679.0.1	T0	1	367508
679.0.2	T0	2	121261
679.0.3	T0	3	207877
679.0.4	T0	4	111008
679.0.5	T0	5	206314
679.3.1	T3	1	138545
679.3.2	T3	2	172530
679.3.3	T3	3	107687
679.3.4	T3	4	189169
820.0.1	T0	1	183789
820.0.2	T0	2	198727
820.0.3	T0	3	338532
820.0.4	T0	4	319958
820.3.1	T3	1	416886
820.3.2	T3	2	203271
820.3.3	T3	3	823814
M.0.1	T0	1	185386
M.0.2	T0	2	126170
M.0.3	T0	3	369873
M.0.4	T0	4	278819
M.0.5	T0	5	130719
M.3.1	T3	1	200643
M.3.2	T3	2	115583
M.3.3	T3	3	185831
M.3.4	T3	4	138238
M.3.5	T3	5	378272
S1	n/a	1	149846
S2	n/a	2	131488
S3	n/a	3	127897
S4	n/a	4	114819
S5	n/a	5	107714

Table S2. Organic extract yields and final concentrations in the mesocosm experiments. The quantity of extract added to each mesocosm vial was equivalent to that obtained from 20 mL of culture or culture media.

Sample	Volume (L)	Extract mass (mg)	20-mL equivalent mass (mg)	Mesocosm concentration (mg/mL)
<i>S. arenicola</i> CNY-679	1	92	1.84	0.307
<i>S. arenicola</i> CNS-820	1	77	1.54	0.257
Sterile media	1	32	0.64	0.107

Table S3. Table of ions in the *S. arenicola* culture extracts with matches to known compounds in the GNPS database. The table was generated in GNPS from MS/MS data from the three extracts used in the mesocosm experiments and edited for clarity.

Extract	LibraryID	# of spectra	Parent mass
CNY-679, CNS-820	Staurosporine	8	483.203
CNY-679, CNS-820	Staurosporine	12	467.203
CNS-820	Staurosporine	3	439.176
CNY-679	Rifamycin W	3	706.283
CNY-679, CNS-820	Rifamycin W	6	662.258
CNY-679, CNS-820	Saliniketal A	9	408.236
CNY-679	Saliniketal B	3	364.209

Table S4. Average Bray-Curtis dissimilarity values for media control and *S. arenicola* extract treatment samples. Extract treatments are referred to by their source strain.

Condition(s)	Bray-Curtis dissimilarity
Media controls	0.55
CNY-679	0.48
CNS-820	0.62
Media - CNY-679	0.54
Media - CNS-820	0.68
CNY-679 - CNS-820	0.67